Maher, S., & Kendall, J. M. (2018). Crustal anisotropy and state of stress at Uturuncu Volcano, Bolivia, from shear-wave splitting measurements and magnitude–frequency distributions in seismicity. *Earth and Planetary Science Letters*, *495*, 38-49. https://doi.org/10.1016/j.epsl.2018.04.060

Supplementary material for "Crustal Anisotropy and State of Stress at Uturuncu Volcano, Bolivia, from Shear-Wave Splitting Measurements and Magnitude-Frequency Distributions in Seismicity"

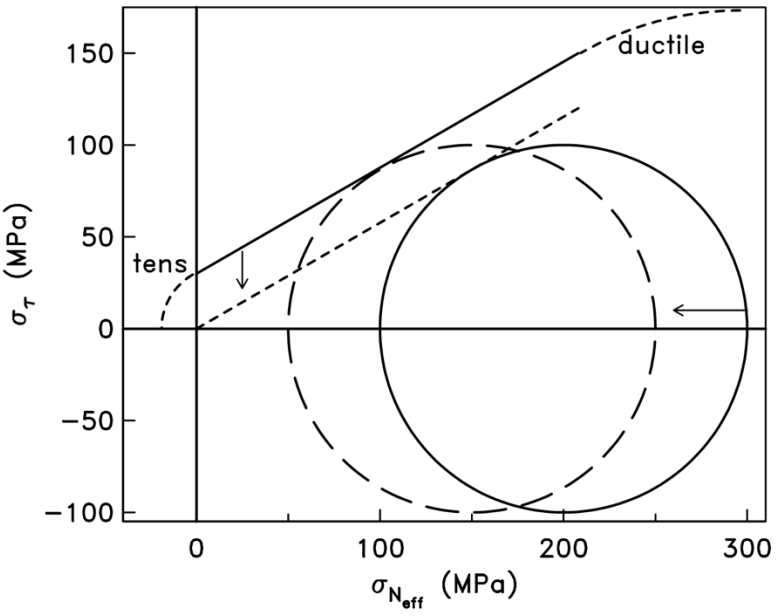

Figure S1. The Mohr's Circle for a stress field where σ_1 is 300 MPa and σ_2 is 100 MPa. An increase in pore pressure reduces the effective normal stress (σ_{Neff}) and has the effect of translating our Mohr's Circle to the left (long-dashed line), where it is more likely to intersect the Mohr-Coulomb envelope and failure occurs. Fractures have the effect of weakening a material so that failure occurs at a lower shear stress. The short-dashed straight line shows a case where the cohesion of the material goes to zero - the linear part of the Mohr-Coulomb envelope translates to lower shear stresses (σ_τ), as indicated by the vertical arrow. Negative normal stresses mean extension and the material will experience tensile failure. At high normal stresses the material will behave in a more ductile manner.